

TIF-29339

Patent Amendment

REMARKS

This application has been carefully reviewed in light of the Office Action dated February 24, 2004. Applicant has amended claims 1, 12, 23, and 24. Reconsideration and favorable action in this case are respectfully requested.

The Examiner has rejected claims 1- 24 under 35 U.S.C. §102(b) as being unpatentable over EP No. 0683451A2 to Sunakawa et al. Applicant has reviewed this reference in detail and does not believe that it discloses or makes obvious the invention as claimed.

The Sunakawa reference shows a system where a task which uses one or more devices with the largest power consumption is given a higher priority in order to complete the task in a shorter period of time. By completing the high priority task in a shorter time, power to the device (or devices) can be turned off earlier, thereby reducing the power consumed by the device (page 10, lines 8-30). In a second embodiment, initiating a device pursuant to a task is delayed if turning on the device would exceed power limits (page 12, lines 1-5). In a third embodiment, increased power due to a device's transition from a high-power mode to a low-power mode is taken into consideration deciding upon whether to place the device in a low power mode once a task's access to a device is complete (page 15, lines 1-5). In a fourth embodiment, the hysteresis of intervals between accesses to the device is recorded (and averaged). This information is used in the determination of whether a device should transition to a low-power mode after the end of an access (page 15, lines 8-25). In a fifth embodiment, the transition of a hard disk drive is made with consideration of whether virtual memory is on or off (page 15, lines 29-40). In a sixth embodiment, a transition to a low power mode is made in consideration of a delay time associated with returning to a high power mode (page 15, lines 44-57).

Claims 1, 13, 23 and 24 have been amended to clarify that a plurality of scenarios are generated for a set of tasks to be concurrently executed.

TIF-29339

Patent Amendment

In any of the embodiments shown in Sunakawa, a decision of how tasks are executed is not based on evaluating a *plurality* of scenarios for executing a plurality of tasks to be performed concurrently. In the embodiment of Sunakawa cited the Examiner, a decision to give a higher priority to a certain task is based upon the power consumed by the task according to a calculation of the total power consumed by the task.

Basically, the Sunakawa reference reduces power consumption by reducing the time needed to complete a task, if the task uses one or more devices which require significant power throughout the life of the task. This may work in certain computer system, where a primary consideration for reducing power consumption involves the time power is applied to peripheral devices. Modern day electronic systems, such as a mobile telephone circuit, have significantly different considerations which cannot be accounted simply by modifying the execution of one task without consideration of its effect on the overall picture. For example, a mobile telephone circuit may be executing real-time and non-real time tasks, and cannot simply increase the priority of a high power consuming task at the expense of a real-time task, such as a task that processes incoming audio or video information.

The present invention, as described in claims 1, 12, 23 and 24 uses a far more comprehensive technique than Sunakawa. In the present invention, consumption information for a set of tasks to be performed concurrently is calculated using a plurality of scenarios for executing the tasks, where the consumption information of each scenario is based on probabilistic values for activities associated with the tasks. One of the scenarios is executed on said plurality of processing modules responsive to said consumption information.

Sunakawa does not calculate consumption information for a *plurality* of scenarios a select one of the scenarios for executing the tasks. Sunakawa merely assigns a priority

TIF-29339

Patent Amendment

to a task based on the calculated consumption for the task, without evaluating different priority scenarios.

In claims 23 and 24, a task allocation scenario is generated based on a task model describing the tasks along with information regarding possible degradations associated one or more tasks in a task list. The Examiner states that "priority" is interpreted as "information regarding possible degradations." Even if a "priority" was equated to a "degradation", Sunakawa, however, does not teach a system whereby information regarding *possible* priorities for a task is provided. Further, Sunakawa does not teach generating a scenario based on *possible* priorities associated with one or more of the tasks.

Accordingly, Applicant respectfully requests allowance of claim 1-24.

The Commissioner is hereby authorized to charge any fees or credit any overpayment, including extension fees, to Deposit Account No. 20-0668 of Texas Instruments Incorporated.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Alan W. Lintel, Applicants' Attorney at (972) 664-9595 so that such issues may be resolved as expeditiously as possible.

TIF-29339

Patent Amendment

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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